bel canto

e.One™ series

M300/S300

USER'S GUIDE

M300/S300

MONO/DUAL MONO AUDIO POWER AMPLIFIER

TABLE OF CONTENTS

Safety Information ……2
Certifications/Standards ……3
Warranty ……4
Unpacking ……4
Power Connection ……4
Setup and Placement ……5
Design Features ……5
Rear Panel Connections ……6
Tips for Operation ……7
Specifications ……8

Copyright © 2010 Bel Canto Design Ltd.

Bel Canto Design Limited
221 North 1st Street
Minneapolis, MN 55401
United States

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Bel Canto Design. The content of this manual is provided for information use only, is subject to change without notice, and should not be construed as a commitment by Bel Canto Design Limited. Bel Canto Design Limited assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual. Trademarks used in this publication: Bel Canto and the Bel Canto logo are registered trademarks of Bel Canto Design Limited. M300 and S300 are trademarks of Bel Canto Design Limited. Bel Canto Design Limited disclaims any proprietary interest in trademarks and trade names other than its own. Printed in the United States.

Important Safety Information

Explanation of symbols used in this manual or on the rear/underside of the apparatus:

This symbol is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure of sufficient magnitude to cause electric shock.

This symbol is intended to alert the user to the presence of important operation, maintenance and servicing information in the instruction and service manuals.

CAUTION

- To reduce the risks of electric shock, do not remove the cover.
- No user serviceable parts inside.
- Refer servicing to qualified service personnel.
- Replace the mains fuse in the plug with one of the same type and rating.
- Disconnect supply cord before changing fuse.

WARNING

To reduce the risks of fire or electric shock, do not open chassis or expose this apparatus to water or moisture.

Safety Instructions

- Read, keep and follow these instructions.
- Heed all warnings.
- Do not use the apparatus near water, ie near a bathtub, kitchen sink, laundry tub, in a wet basement, near a swimming pool etc.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the Manufacturer's instructions. Site the apparatus so that its location or position does not interfere with its proper ventilation. For example, the apparatus should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet; consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and at the point where they exit from the apparatus.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug has been damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Mains plug: Use the mains plug to disconnect the apparatus from the mains supply. The mains plug must be accessible at all times. Use the mains switch (if applicable) when the apparatus is not in use.
- Objects and liquid entry: Do not let objects or liquids fall into the apparatus. Do not expose the apparatus to dripping or splashing. Do not place a vessel containing liquid on top of the apparatus.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- The apparatus has been designed for use in moderate and tropical climates

In The U.K.

Fuse replacement:

This appliance is fitted with a non-rewireable 10 amp mains plug. The plug contains a 10 amp fuse. If the fuse has blown it can be replaced as follows:
a) Pull out the black fuse cover/carrier.
b) Remove and dispose of the blown fuse.
c) Fit a new 10 amp BS1362 approved fuse into the carrier and push the carrier back into the plug.

Always ensure the fuse cover is fitted. If the fuse cover is missing do not use the plug. Contact your Bel Canto retailer to obtain a replacement fuse cover. Fuses are for fire protection and do not protect against electric shock.

WARNING: THIS APPLIANCE MUST BE GROUNDED.

CE DECLARATION

Bel Canto Design Ltd. declare that this product is in conformance with the Low Voltage Directive 73/23/EEC and Electromagnetic Compatibility 89/336/EEC as amended by 92/31/EEC and 93/68/EEC.

The conformity of the designated product with the provisions of Directive number 73/23/EEC (LVD) is proved by full compliance with the following standards:

EN60065 2002 General requirements

The conformity of the designated product with the provisions of Directive number 89/336/EEC (EMC) is proved by full compliance with the following standards:

EN55013 2001 Conducted emissions
EN55013 2001 Absorbed emissions
EN55020 2002 Immunity

The conformity of the designated product with the provisions of Directive number 2005/32/EC ecodesign requirements is proved by full compliance with the 'off mode' setting power of 0.0 Watts.

FCC NOTICE

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Green By Design

All Bel Canto products make use of compact and efficient design principles. Our products use less resources per unit to produce better performance than ever before. Everything from reduced packaging volume, to less weight in transport helps to reduce the overall environmental impact of bringing our products into the market.

Our products make very efficient use of electricity. Low energy usage and compact size ensure that the physical and environmental footprints of all Bel Canto products are minimized. Quality and performance play into this approach as all of our products are designed to remain vital and valid performers for many years. Should you want to upgrade to one of our new products, we even offer trade-in value for your old Bel Canto product to ensure that it is recycled in the most efficient and responsible manner.

RoHS and WEEE

All of our current products are designed and produced to RoHS standards, ensuring that dangerous materials do not enter the waste stream. Lead free electronics assemblies and environmentally safe finishing and production methods are utilized to ensure that our products and processes are environmentally safe.

Bel Canto Recycles

Bel Canto has always been a forward thinking company. In the same way that we are focused on the development of high-end audio products, we are also conscious of what we leave behind. For many years we have implemented environmentally sound measures to make the most efficient use of resources and keep our impact at a minimum.

We reuse or recycle more than 99% of the packing materials for our incoming parts shipments. Each year we divert massive amounts of cardboard, paper, plastic film, and Styrofoam from landfills. Our plastic and Styrofoam is delivered directly to local facilities that process it on site for use in their manufacturing. Steel, aluminum, and other metal waste products are delivered to local metal scrap yards for recycling back into the production stream.

We also participate in Waste Management's e-Cycling program. All electronic waste is processed in the US, with hazardous material being separated from non-hazardous, at ISO 9001 and ISO 14001 certified regional processing centers.

Our commitment to responsible production processes ensures that the absolute minimum of material used in the making of our products enters the waste stream.

Warranty Information

Bel Canto products are automatically covered by a 90 day factory warranty that covers all internal parts and labor. Register online (http://www.belcantodesign.com/Belcanto_Warranty.html) within 30 days of purchase from an authorized dealer to automatically extend your warranty for 2 years starting from the date of purchase. If you do not have web access, please contact your dealer for assistance. Upon fully completing registration, within 5 business days you will receive an email that officially validates your warranty. Your information will be used for internal use only and will not be sold or released outside Bel Canto. Your comments and suggestions are appreciated and help us continually improve our products and services.

The warranty is only valid to the original owner and is non-transferable. Damage caused by unauthorized modification, abuse, or neglect of product will void your warranty. Any cost associated with return of product is the sole responsibility of the owner. All returns require a return authorization number issued after completing the RMA form in the support section of our website. If you have any questions, please feel free to contact us online at info@belcantodesign.com.

Unpacking Your M300/S300

M300/S300 packaging contains the following:

1 (one) – M300 or S300 Amplifier
1 (one) – User's Guide
1 (one) – Power cord [6.6' – 2 meters long]

Carefully unpack each piece and check for shipping damage. If there is any damage, or if anything is missing, please contact your dealer, distributor or Bel Canto Design.

IMPORTANT!
Save all packing materials! They are custom designed to protect the unit during transportation or shipping. If the packing becomes lost or damaged, please contact your dealer or Bel Canto before attempting to transport your unit.

Power Connection

The power supply on the M300/S300 is preset for the proper power voltage. The power cable should have the correct plug for your local power system. If you believe this to not be true, please contact your dealer immediately.

This product, like any electrical component, can be dangerous and cause injury unless correct handling procedures are observed and used. Before powering this product, it is necessary to read and follow proper setup and procedures.

WARNING!
Do not connect power to this product yet!

Setup & Placement

Because the M300/S300 runs cool, it can be placed in many system locations without compromise. We do not recommend placing weights or other objects directly on the M300/S300. This may scratch or mar the chassis finish. Do not use harsh chemicals when cleaning the outside of your M300/S300.

IMPORTANT!
Make all connections before powering your unit!

Design Features

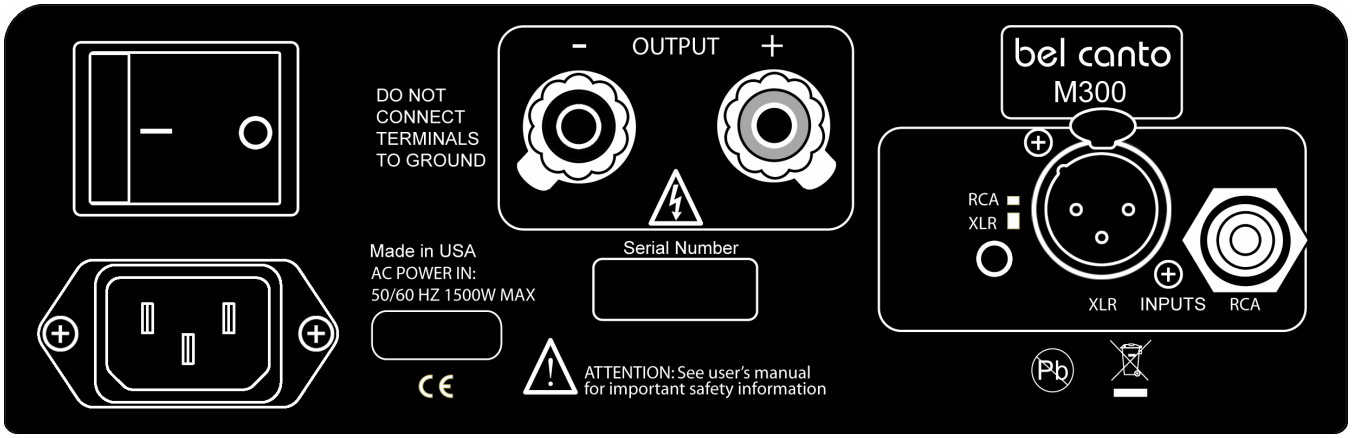
The e.One M300 and S300 are mono and dual-mono audio power amplifiers that deliver up to 150 watts into 8 ohm loads and 300 watts into 4 ohm loads. Each amplifier contains its own dedicated regulated power supply for all amplifier stages, including the output section. This is achieved in a compact and elegant product through our adaptation of the latest analog switching amplifier and power supply technology from the ICEpower group.

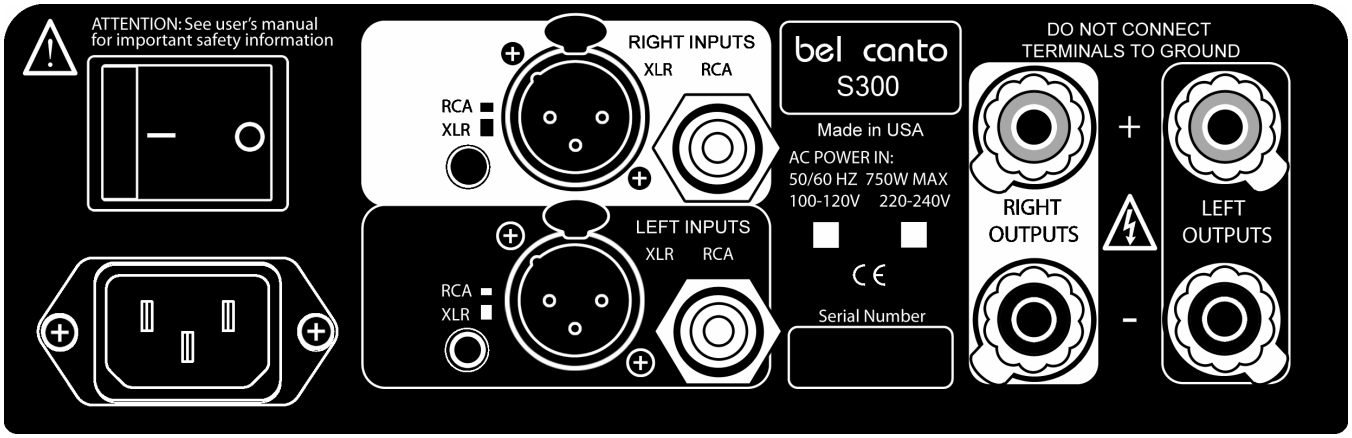
Bel Canto's new generation of e.One analog switching audio power amplifiers extend our leadership in this technology. These amplifiers incorporate performance enhancing technologies that bring musicality and performance to new levels.

CONDITIONING

The sonic performance of the M300/S300 will start to stabilize after approximately forty (40) hours of continuous power up. We recommend that the M300/S300 remains powered on for optimal performance.

Rear Panel Connections





Never Connect Either the Positive or Negative Speaker Output to Any Ground Contact!

Connecting any Speaker Output on the M300/S300 to Ground will cause the amplifier to go into protection and could damage the amplifier and void the warranty.

- Power Switch: Power is on when the switch is toggled to the I position and off in the O position.
- IEC power cord jack: Connect a heavy gauge power cord from this jack to the wall power supply. Note the power setting indicated on the back of the amplifier before connecting the power.
- Input Connections and RCA/XLR switch: When using RCA cables for the input ensure that the RCA/XLR switch is pressed in to the RCA position. When using XLR cables insure that the switch is out in the XLR position.
- **Do not connect both XLR and RCA cables to the inputs!**
- Output Connections: Attach your loudspeaker to the output connectors. Be sure that the polarity of each speaker is correct and the same for both channels so that no phase inversion can occur.

Double-check all connections to and from the amplifier. Power on the preamplifier in your system, activate its Mute setting and then power on the M300/S300

Tips For Operation

- In case there is hum or ground noise, check that the RCA/XLR switch is in the correct position for the type of connection being used.

- Ensure that the preamplifier or any source components are not producing hum by setting the preamplifier to a MUTE or Standby setting.

- The design of the M300/S300 reduces the chance for ground loop induced hum, but we still recommend using shorter interconnect cables to the preamplifier. Connect all power cables to a common outlet box or power conditioner unit to reduce the possibility for ground current noise being induced into the audio signal path.

- If you choose to power your source and preamplifier components from a different AC supply than used for the M300/S300 amplifiers, we recommend that you use a high quality balanced XLR cable driven from a true balanced XLR preamplifier output.

- **We do not recommend** that you resort to ‘cheater plugs’ or some other means to disconnect the power ground from the M300/S300 as this may lead to dangerous operation and void the warranty.

- The small blue LED lamp indicates that power is connected to the M300/S300 and that the power switch is in the ON position. If the amplifier detects a fault or short circuit in the output connections, it will go into a protection mode and stop playing. If this occurs toggle the power switch to the OFF position and check the speaker cabling to ensure that no speaker output is either shorted together or connected to a ground. When you are certain that the loudspeaker cabling is correct, power the unit ON again, check that the blue LED is lit and that music will play.

- There is an internal fuse protection on the M300/S300. If the power switch is in the ON position, the power cable is connected to a functioning power outlet at the correct voltage and the blue LED is not lit, this indicates that the internal fuse may have blown. If this occurs contact your dealer, distributor or Bel Canto for service. There are no user replaceable fuses or other parts. Opening the chassis will void your warranty.

Specifications

M300 Power Amplifier

Maximum Power Output:	300W 4 ohms, 150W 8 ohms
Minimum Load:	4 ohms
Frequency Response:	+/- 0.05 dB 20Hz-20KHz, all loads
THD+N:	0.01% 1W, 1KHz, 4 ohms
IMD (CCIF):	0.002%, 1W, 14:15KHz, 4 ohms
Output noise:	90uVRMS A-weighted 10Hz-20KHz
Voltage gain:	27dB (single ended or balanced input)
Damping factor:	>1000
Output Impedance at 100Hz:	<8 milliohms
Dynamic Range:	111dB
Input Voltage for Max Output:	1.5Vrms
Input connections:	Single-ended RCA or balanced XLR
RCA input impedance:	10Kohms
Balanced input impedance:	20Kohms
Output connections:	WBT 5-way safety binding posts
Standby Power:	5W
Internally Set Operating Voltages:	100-120VAC or 230-240VAC 50/60 Hz
Size:	8.5 x 3.5 x 12[inches], 216 x 88 x 305[mm] (WxHxD)
Weight:	9lbs, 4Kg

S300 Power Amplifier

Maximum Power Output:	300W 4 ohms, 150W 8 ohms per channel
Minimum Load:	4 ohms per channel
Frequency Response:	+/- 0.05 dB 20Hz-20KHz, all loads
THD+N:	0.01% 1W, 1KHz, 4 ohms
IMD (CCIF):	0.002%, 1W, 14:15KHz, 4 ohms
Output noise:	90uVRMS A-weighted 10Hz-20KHz
Voltage gain:	27dB (single ended or balanced input)
Damping factor:	>1000
Output Impedance at 100Hz:	<8 milliohms
Dynamic Range:	111dB
Input Voltage for Max Output:	1.5Vrms
Input connections:	Single-ended RCA or balanced XLR
RCA input impedance:	10Kohms
Balanced input impedance:	20Kohms
Output connections:	2-sets WBT 5-way safety binding posts
Standby:	10W
Internally Set Operating Voltages:	100-120VAC or 230-240VAC 50/60 Hz
Size:	8.5 x 3.5 x 12[inches], 216 x 88 x 305[mm] (WxHxD)
Weight:	9lbs, 4Kg

Features and specifications are subject to improvements and changes without prior notice.

Bel Canto Design, LTD
221 First Street North, Suite 300
Minneapolis, MN 55401
Phone : 612.317.4550 Fax : 612.359.9358
www.belcantodesign.com
info@belcantodesign.com
©2009 Bel Canto Design, LTD
e.One™ is a trademark of Bel Canto Design, LTD